

بسم الله الرحمن الرحيم

فريق عمل كل الطب

يقدم

سلسلة كتب د/أحمد موافي

*In Capsule Series*

تم الرفع بواسطة فريق عمل كل الطب

**ALLTEB MEDICAL TEAM**

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## **Pulmonology revision**

**Enumerate :**

- 1. Causes of pleural effusion.**
- 2. Causes of pneumothorax.**
- 3. Causes of pneumonia.**
- 4. Causes of bronchiectasis.**
- 5. Causes of acute respiratory failure.**
- 6. Causes of chronic respiratory failure.**
- 7. Causes of interstitial lung diseases ( ILD )**
- 8. Causes of hemoptysis.**
- 9. Causes of massive hemoptysis.**
- 10. Causes acute chest pain.**
- 11. Causes of clubbing due to chest diseases.**
- 12. Causes of central cyanosis.**
- 13. Causes of dry cough.**
- 14. Causes of hypoxia.**
- 15. Causes of acute respiratory distress syndrome.**
- 16. Causes of solitary pulmonary nodule.**
- 17. Causes of reticular shadows on plain X-ray chest.**
  - a) Acute pulmonary edema ( cardiac, non cardiac )
  - b) Atypical pneumonia e.g. Mycoplasma.
  - c) ILD : Sarcoidosis, silicosis, asbestosis, idiopathic pulmonary fibrosis.
  - d) Neoplasia : lymphangitis carcinomatosis.
  - e) Wegener's, SLE.

**18. Causes of nodular shadows on plain X-ray chest.**

- a) Neoplasia : metastasis, lung cancer, adenoma.
- b) Infections : varicella pneumonia, septic emboli.
- c) Granulomas : miliary TB, Sarcoidosis, Wegener's .
- d) Pneumoconiosis ( except asbestosis ), Caplan's syndrome.

**19. Causes of coin shadow.**

- a) Bronchogenic carcinoma, solitary metastasis.
- b) TB, FB.
- c) Pneumonic stage of lung abscess.
- d) Granuloma.
- e) Encysted effusion.
- f) Calcified cyst.

**20. Causes of mediastinal syndrome.**

**21. Causes of cor-pulmonale.**

**22. Causes of effusion with low sugar content.**

**23. Causes of hepatomegaly in respiratory diseases.**

- a) Chronic venous congestion in cor-pulmonale e.g. COPD
- b) Metastatic liver in lung cancer.
- c) Ptosed liver in emphysema.

**24. Extra-pulmonary manifestations of bronchogenic carcinoma.**

**25. Complications of pneumonia.**

**26. Complications of bronchiectasis.**

**27. Various types of pneumothorax.**

**28. Types of sputum.**

**29. Types of crepitations.**

**30. Causes of chronic cough with normal chest X-ray.**

- Cough variant asthma or eosinophilic bronchitis.
- Smoking.
- ACEIs.
- GERD.
- Postnasal drip : due to allergic rhinitis or chronic sinusitis.

**31. Causes of cough.**

**32. Non respiratory causes of cough.**

- a) GERD.
- b) Drug induced : ACEIs.
- c) Central causes : brain tumor, cerebral strokes, encephalitis.
- d) Reflexes : due to irritation of vagal branches :
  - Meningeal branches : meningitis.
  - Auricular branches : otitis media.
  - Cardiac branches : arrhythmias.
  - Gastric branches : distension of gallbladder.

**33. Causes of wheezy chest. P146 ( generalized & localized )**

**34. Indications of bronchoscopy. P 148**

**35. Indications of lung transplantation. P148**

**GIVE A SHORT ACCOUNT ON :**

1. **Diagnosis, treatment of pleural effusion.**
2. **Types of pleural effusion. P 15**
3. **Diagnosis of pneumonia.**
4. **Complications of pneumonia.**
5. **Treatment of pneumonia.**
6. **Non-resolving pneumonia.**
7. **Management of bronchiectasis.**
8. **Diagnosis of chronic lung abscess.**
9. **Diagnosis of bronchogenic carcinoma.**
10. **Etiology of COPD & define chronic bronchitis.**
11. **Clinical picture, investigations of COPD.**
12. **Treatment of COPD.**
13. **DD of COPD. P 51**
14. **Emphysema ( Etiology, diagnosis, complications, treatment )**
15. **Acute severe asthma ( status asthmaticus )**
16. **Diagnosis of bronchial asthma.**
17. **Treatment of bronchial asthma.**
18. **Diagnosis of acute & chronic respiratory failure.**
19. **Anti-tuberculous drugs.**
20. **C/P & investigations of TB.**
21. **Hemoptysis.**
22. **Diagnosis of acute chest pain of pulmonary origin.**

**23. Mediastinal syndrome.****24. The dark side of oxygen. P 129****25. Occupational interstitial lung diseases ( Pneumoconiosis )****26. C/P & investigations of sarcoidosis.****27. Surface anatomy of the pleura & lung. P 7, 8****28. Extra-pulmonary manifestations of bronchogenic carcinoma.****29. Extra-pulmonary manifestations of sarcoidosis.****30. Diagnosis of pneumothorax.****31. The value of eye examination of sputum sample.**

a) Clear &amp; colorless : chronic bronchitis.

b) Yellow/green : pulmonary infection.

c) Red : hemoptysis ( ..... )

d) grey : smoking, coal.

e) Pink frothy : pulmonary edema.

**32. Drug induced lung disease. ( written, oral, MCQ )**

Respiratory condition	Drug
Bronchospasm	<input checked="" type="checkbox"/> B blockers. <input checked="" type="checkbox"/> NSAIDs
Cough	<input checked="" type="checkbox"/> ACEIs
Respiratory center depression	<input checked="" type="checkbox"/> Sedatives, Opiates.
ARDS	<input checked="" type="checkbox"/> Prolonged inhalation of oxygen. <input checked="" type="checkbox"/> Opiates, Cocaine, Heroin.
Pulmonary thromboembolism	<input checked="" type="checkbox"/> Estrogen
Pleural effusion	<input checked="" type="checkbox"/> Amiodarone <input checked="" type="checkbox"/> Methotrexate <input checked="" type="checkbox"/> Phenytoin <input checked="" type="checkbox"/> INH <input checked="" type="checkbox"/> Hydralazine
Interstitial pulmonary fibrosis	<input checked="" type="checkbox"/> Amiodarone. <input checked="" type="checkbox"/> Methotrexate. <input checked="" type="checkbox"/> Nitrofurantoin ( antibiotic )

**GIVE REASONS :**      ( written & oral )

**1. Congested neck vein in COPD.**

- a) Increased intra-thoracic pressure.
- b) Hypoxic Cor-pulmonale.

**2. Edema LL in COPD.**

- a) Salt & water retention induced by hypoxia of the kidney.
- b) Hypoxic Cor-pulmonale.

**3. Puffy eyelids in COPD.**

- a) Straining caused by chronic cough.
- b) Hypoxic cor-pulmonale.
- c) Proteinuria.

**4. Pulmonary hypertension in COPD.**

- a) Hypoxia causes reflex pulmonary arteriolar VC.
- b) Hypoxia causes polycythemia → ↑ pulmonary resistance.
- c) Hypoxia causes peripheral VD → ↑ VR to RV
- d) Compression of the capillaries by the distended alveoli  
( hyperinflation )
- e) Reduction of the number of capillaries due to destruction of  
alveoli.
- f) Fibrosis of blood vessels.

## **5. RSHF in patients with COPD.**

- a) Causes of pulmonary hypertension ( see above )
- b) In severe cases, hypercapnia results in respiratory acidosis → myocarditis.

## **6. Chest pain in COPD.**

- a) Muscular pain : due to chronic cough.
- b) Pleurisy complicated pneumonia.
- c) Pneumothorax : due to rupture emphysematous bullae.

## **7. Irreversible bronchial obstruction in chronic bronchitis.**

- a) Mucous gland hypertrophy.
- b) Infiltration of the walls of bronchi with inflammatory cells  
( neutrophils, CD8 + T lymphocytes ).
- c) Inflammation is followed by scarring & remodeling process that thickens the walls of bronchi.

## **8. Palpable liver in COPD.**

- a) Ptosed liver due to emphysema : not tender.
- b) Congested liver due to RSHF : tender.

## **9. Elevated hemoglobin with COPD.**

Chronic hypoxia → ↑ of BM → secondary polycythemia.

## **10. Increased serum bicarbonate in COPD.**

Retention of sodium bicarbonate by the kidneys as a compensatory mechanism to correct respiratory acidosis.



**11. Silent chest in acute severe asthma.**

- a) Exhausted respiratory muscles.
- b) Small amount of air passing through the bronchi.

**12. Neurological manifestations in bronchial carcinoma.**

- a) Brain metastasis : hemiplegia .....
- b) Mediastinal syndrome : caused by tumor or LN ( .... )
- c) Thoracic inlet syndrome in pancoast tumor : ( .... )
- d) Para-malignant syndrome : esp in small cell carcinoma ( .... )

**13. Dyspnea in lung cancer**

- Pneumonia.
- Underlying chronic lung disease e.g. COPD.
- Lobar collapse.
- Pleural effusion.
- SVCO.
- Upper airway obstruction.
- Pulmonary emboli.
- Lymphangitis carcinomatosa.
- Pericardial effusion.
- Anxiety and panic.

**14. Unequal pupil in bronchial carcinoma.**

Compression of subclavian artery : in mediastinal or thoracic inlet syndromes.

**15. Chest pain in lung cancer.**

- a. Invasion of the mediastinum, pleura and chest wall.
- b. Pancoast tumor : intractable neck, chest & arm pain due to compression and invasion of brachial plexus.
- c. Involvement of the esophagus : pain on swallowing.

**16. Cushing's syndrome in bronchogenic carcinoma.**

Endocrinal manifestation of para-malignant syndrome : secretion of ACTH by tumor cells esp in small cell carcinoma → ↑ ↑ zona fasciculata of cortex of supra-renal gland to secrete cortisol.

**17. Carcinoid syndrome.**

- The syndrome includes flushing and diarrhea, and, less frequently, heart failure and bronchoconstriction.
- The carcinoid syndrome occurs in approximately 10% of carcinoid tumors ( neuroendocrine tumors, usually appear in the GIT e.g. appendix, small intestine, colon, rectum, and in the lungs )
- It is caused by endogenous secretion of mainly serotonin and kallikrein.
- In most patients, there is an increased urinary excretion of 5-HIAA (5-hydroxy indole acetic acid), a degradation product of serotonin.
- Treatment :
  - Surgical resection of tumor and chemotherapy (doxorubicin)
  - Octreotide (a somatostatin analogue that neutralizes serotonin and decreases urinary 5-HIAA)
  - Methysergide (antiserotonin agent but not used because of serious side effect of retroperitoneal fibrosis)

**18. Cardiac abnormalities in carcinoid syndrome**

- ➡ About 50% of patients have cardiac abnormalities, caused by serotonin-induced fibrosis of the tricuspid and pulmonary valves.
- ➡ Elevated levels of serotonin have been associated with cardiac failure, due to fibrous deposits on the endocardium.

**19. Dyspnea after operation ( Post operative pulmonary complications )**

- ✓ Aspiration pneumonia.
- ✓ Aspiration lung abscess.
- ✓ ARDS.
- ✓ Pulmonary embolism.
- ✓ Postoperative collapse.
- ✓ Pneumothorax.

**20. Rusty sputum**

Present in lobar pneumonia due to color of hemoglobin of hemolysed RBCs in stage of red hepatization.

**21. Chest pain in pneumonia.**

- a) Pleurisy.
- b) Muscular pain due to repeated cough.

**22. Non- resolved pneumonia. ( Pneumonia lasting for > 2 weeks in spite of treatment )**

- Inadequate treatment.
- Atypical organism.
- Immunocompromised patient.
- Underlying lung disease e.g. lung cancer.
- Pneumonia complicated by empyema or lung abscess.

### **23. Jaundice in TB.**

a) Hepatocellular jaundice :

- Hepatotoxicity : Anti-TB drugs e.g. Rifampicin
- Extrapulmonary affection of the liver.

b) Obstructive jaundice : spread to LN in porta hepatis.

### **24. Jaundice in bronchogenic carcinoma.**

a) Hepatocellular jaundice :

- Hepatotoxicity : side effects of chemotherapy.
- Extrapulmonary affection of the liver.

b) Obstructive jaundice : spread to LN in porta hepatis.

c) Hemolytic jaundice : para- malignant syndrome.

### **25. Jaundice in pneumonia**

a) Hemolytic jaundice : hemolysis of RBCs present in consolidated area.

b) Hepatocellular : Impaired liver function by toxemia.

### **26. Abscess in right lower lobe of the lung**

This is usually primary ( inhalation ) lung abscess. The inhaled material usually goes to the right lower lobe as the right lower bronchus is wide & in direct continuity with the trachea.

### **27. Edema LL in bronchiectasis.**

a) Excessive sputum → loss of protein.

b) Cor-pulmonale.

c) Renal amyloidosis.

**28. Hemorrhagic effusion. P 16**

**29. Exudative pleural effusion. P 11**

**30. Clubbing in respiratory diseases.**

a) Pale clubbing ( due to toxemia ) :

- Suppurative lung diseases e.g. bronchiectasis.
- Bronchogenic carcinoma.
- TB.

b) Blue clubbing ( due to hypoxia ) :

- Interstitial lung diseases.
- Arterio-venous shunts.
- COPD ( rare )

**31. False -ve tuberculin test.**

- Cortisone therapy or Immunocompromised patients.
- Improper technique.
- Pre immune phase (it takes 2–10 weeks after tuberculosis infection for an immune response to PPD to develop )
- fulminant tuberculosis especially military TB.

**32. Anemia in TB**

- Anemia of chronic disease.
- Toxic inhibition of BM ( BM failure )
- Malnutrition.
- Chronic hemoptysis.

# Cases

1- A 35-year-old patient complains of chronic cough & expectoration of excessive purulent sputum averaging 320 ml/d. The condition partly improves with antibiotics to recur again. Expectoration increases on awakening in the morning and on leaning forward. The patient also has 3<sup>rd</sup> degree clubbing.

- a) What is the most probable diagnosis ?
- b) Mention other conditions that can give a similar clinical picture ?
- c) What is the etiology and pathogenesis of the patient's illness ?
- d) How to treat such patient ?

**a) What is the most probable diagnosis ?**

Bronchiectasis.

**b) Mention other conditions that can give a similar clinical picture ?**

- 1) Lung abscess.
- 2) Infected cystic lung.
- 3) Empyema with bronchopleural fistula.

2- A patient presenting with dyspnea 3 days following an attack of fever 39°C with cough & expectoration. Physical examination revealed decreased movement on the right side of the chest with decreased fremitus, dullness to percussion, and decreased breath sounds all on the right. The trachea is deviated to the left.

a) What is the most likely diagnosis ?     Right pleural effusion.

b) What are the causes of this condition ?

c) How to proceed in the management of this case ?

3- A 62 years old woman with congestive heart failure develops pneumonia and a large pleural effusion. Thoracocentesis is performed in an effort to establish whether the pleural effusion is due to heart failure or pneumonia. The aspirate showed a protein content of 6 g%, a glucose content of 30 mg% and an LDH content of 400 mg%.

a) Can u now answer the question whether the pleural effusion is due to CHF or pneumonia ? And how did u know ?

b) What other tests can be performed on the pleural aspirate to reach a specific diagnosis ?

c) What are the types of pleural effusion?

d) How to manage the case ?

a) Pleural aspirate should be analyzed to know whether it is a transudate or exudate ( ..... ) : Pneumonia : exudate, CHF : transudate

4- A heavy smoker man 74 year old, presented with hemoptysis. On examination he was cachectic and had 2 hard LN 2 cm in size, in the right supraclavicular area. There was dullness in the upper right anterior part of the chest. He had a history of right upper limb pains and atrophy of the hypothenar muscles was noted.

- a) What is the diagnosis ?
- b) Enumerate causes of atrophy of the small muscles of the hand.
- c) Enumerate 5 hazards related to smoking.
- d) How would you treat him ?

5- A 45 year heavy smoker man presented to the outpatient clinic with an acute respiratory infection of few days duration. On examination his chest was over inflated and bilateral basal medium sized crepitations were detected.

- a) What is the probable diagnosis ?
- b) What are the investigations you would ask for ?
- c) How would you treat him ?



6- A 32-year old man suffers since adolescence from recurrent attacks of dyspnea and chest wheezing. He doesn't smoke. His symptoms are controlled with an inhaled drug.

- a) What do you expect his pulmonary function to show during an attack?
- b) What is the pathogenesis of this condition ?
- c) What is the medical treatment of this condition ?

a) What do you expect his pulmonary function to show during an attack?

- FVC is reduced.
- FEV1/FVC is reduced.
- Bronchodilator test : improvement of FEV1 > 15%
- Peak Expiratory Flow rate : is decreased.

**7- A 63 year- old man with a 40 pack-year smoking history complains of progressive dyspnea, persistent cough and weight loss. He also has 3rd degree clubbing. Chest examination revealed decreased movement on the right side of the chest with decreased fremitus, dullness to percussion, and decreased breath sounds all on right. The trachea is also deviated to the right side. A right scalene LN 3 cm in diameter was readily palpable.**

- a) What is the most probable diagnosis ? and why ?**
- b) How to investigate this case to reach specific diagnosis ?**

**The patient's investigations showed in addition metabolic alkalosis, elevated serum cortisol and ACTH.**

- c) What do you expect as a complication of this condition ?**
- d) What is the pathological type of this type of lesion in the lung ?**
- e) What other related complications that may be present in such a case ?**

a) What is the most probable diagnosis ? and why ?

- Bronchogenic carcinoma in the right lung presenting with right pleural effusion.
- The effusion is **malignant due to shift of the trachea to the same side** due to collapse of the underlying lung due to bronchial obstruction by the tumor.
- Other indications for presence of bronchogenic carcinoma are the old age, smoking history, weight loss, 3<sup>rd</sup> degree clubbing,& presence of scalene LN enlargement.

C) What do you expect as a complication of this condition ?

Cushing syndrome due to ectopic secretion of ACTH by the tumor.

d) What is the pathological type of this type of lesion in the lung ?

Small cell lung cancer.

8- A 27 year old female presented with fever , anorexia, dyspnea, dull aching chest pain on the right side, together with dry cough. She had been losing weight for the last 4 months. On examination there was pallor, low grade fever and a toxic face. The apex beat was in the 5th space outside the MCL. There was stony dullness in the right lower & middle lung zones, with decreased breath sounds in the same zones.

**a)What is the most probable diagnosis ?**

**b) What are the 3 most important investigations you would request ?**

**c)Just outline the main lines of treatment ?**

a) Right side pleural effusion probably due to TB

b)

1) Chest radiology : X ray & CT ( most accurate, may identify as little as 10 mL of fluid )

2) Pleural aspiration : exudate ( .... ) with the features of TB :

- Rich in lymphocytes & RBCs , Low glucose level.
- Bacteriological examination : ZN

3) pleural biopsy is diagnostic & show tuberculous granuloma in 2/3 of patients.

c)

1. General : Rest, good nutrition.

2. Anti TB drugs : ( see book )

3. Chemotherapy alone is inadequate due to poor penetration of anti-TB drugs, so must be drained by ICT & surgical removal of a calcified empyema is necessary.

4. Cortisone : to reduce inflammation & fibrosis.

**9- A 65 year-old male, heavy smoker since 40 years used to suffer from persistent cough during the last 7 years & was diagnosed as chronic bronchitis. Recently, he started to lose weight since few months & he noticed change in character of cough since few weeks, cough became more severe & prolonged. He had 3 attacks of hemoptysis.**

**On examination : Temp : 38°C, Clubbing & pallor.**

- a) What is the most probable diagnosis ?**
- b) Mention the 2 most important investigations in this patient .**
- c) How can u explain clubbing, pallor & fever ?**

a) Bronchogenic carcinoma.

b)

1- Radiology ( X-ray, CT )

2- Bronchoscopy & biopsy.

c)

- Clubbing : para-malignant syndrome ( unexplained )
- Pallor : anemia ( Anemia of chronic disease, para-malignant S )
- Fever : pneumonia, lung abscess, bronchiectasis, empyema, para-malignant S

# MCQ

- 1- A low protein content is characteristic of pleural effusions associated with :
  - a) TB.
  - b) Cirrhosis.
  - c) Bronchogenic carcinoma.
  - d) Rheumatoid diseases.
  
- 2- Which of the following manifestations is typical of Kartagener's syndrome?
  - a. Intestinal obstruction
  - b. Dextrocardia
  - c. Steatorrhea
  - d. Infertility
  
- 3- Hypercapnia is a typical feature of :
  - a) Pulmonary embolism.
  - b) Salicylate intoxication.
  - c) Pulmonary fibrosis.
  - d) Severe chronic bronchitis
  
- 4- In pneumonia, the following features are classically associated with the specific organisms EXCEPT :
  - a) Erythema nodosum and Mycoplasma pneumonia.
  - b) Hyponatremia and Legionella pneumonia.
  - c) Abscess formation and Staphylococcus aureus.
  - d) Hemolytic anemia and Streptococcus pneumonia.
  
- 5- In lobar pneumonia which of the following is true in arterial blood :
  - a) Decreased Po<sub>2</sub>, increased PCO<sub>2</sub>
  - b) Decreased Po<sub>2</sub> , Decreased Pco<sub>2</sub>.
  - c) Decreased Po<sub>2</sub> and normal Pco<sub>2</sub>.
  - d) Normal Po<sub>2</sub>, increased Pco<sub>2</sub>.
  
- 6- Which is NOT a part of Kartagener syndrome :
  - a) Dextrocardia.
  - b) Sinusitis.
  - c) Impotence.
  - d) Bronchiectasis.
  
- 7- Which is correct in type 2 respiratory failure :
  - a) Decreased Po<sub>2</sub>, increased PCO<sub>2</sub>
  - b) Decreased Po<sub>2</sub> , Decreased Pco<sub>2</sub>.
  - c) Decreased Po<sub>2</sub> and normal Pco<sub>2</sub>.
  - d) Normal Po<sub>2</sub>, increased Pco<sub>2</sub>.

- 8- In pleural effusion, an impaired transport of glucose into the pleural space is found in :
  - a) TB
  - b) Myxedema.
  - c) Liver cirrhosis.
  - d) Rheumatoid arthritis.
  
- 9- Bronchial breath sound is found in all EXCEPT
  - a) Collapse with patent bronchus.
  - b) bronchial asthma.
  - c) superficial, big, cavity with patent bronchus.
  - d) bronchopleural fistula.
  
- 10- A 43 year old man consult you as he is producing a cupful of foul purulent sputum every day. Examination reveals digital clubbing and coarse crackles at the left base. What is the most likely diagnosis ?
  - a) Bronchiectasis.
  - b) Acute lung abscess.
  - c) Bronchoalveolar cell carcinoma.
  - d) Sarcoidosis.
  
- 11- Clubbing is present in all EXCEPT :
  - a) Fibrosing alveolitis.
  - b) Cystic fibrosis.
  - c) Emphysema.
  - d) Bronchiectasis.
  
- 12- Crepitations not influenced by coughing are found in :
  - a) Acute pulmonary edema.
  - b) Pneumonia.
  - c) Fibrosing alveolitis.
  - d) Lung abscess.
  
- 13- Which of the following drugs is NOT used in acute asthma :
  - a) Zafirlukast.
  - b) Terbutaline.
  - c) Corticosteroids.
  - d) Ipratropium bromide.
  
- 14- Which of the following occupations is associated with new onset asthma ?
  - a) Paint sprayer.
  - b) Insulation installer.
  - c) Typist.
  - d) Truck driver.

15- Which of the following is the most common malignancy associated with asbestos exposure ?

- a) Pleural mesothelioma.
- b) Non-Hodgkin lymphoma.
- c) Bronchogenic carcinoma.
- d) Fibrosarcoma.

16- A pleural aspirate with diminished glucose concentration, excess lymphocytes, high specific gravity is characteristic of :

- a) Tuberculous effusion.
- b) Pneumococcal pneumonia.
- c) Asbestosis.
- d) Malignant lymphoma.

17- A patient with a superior mediastinal swelling, bilateral ptosis will benefit most from which of the following :

- a) Prostigmine.
- b) Corticosteroids.
- c) Thymectomy.
- d) Cholinergic drugs.

18- A patient with low grade fever and weight loss has decreased movement on the right side of the chest with decreased fremitus, dullness to percussion, and decreased breath sounds all on the right. The trachea is deviated to the left. The most likely diagnosis is :

- a) Pneumothorax.
- b) Pneumonia.
- c) Pleural effusion.
- d) Atelectasis.

19- Which is false regarding transudative pleural effusion :

- a) Protein < 3.0 g/100ml.
- b) Pleural fluid/serum LDH ratio < 0.6
- c) PH < 7.2
- d) Specific gravity < 1016

20- Which is example of exudative pleural effusion :

- a) Nephrotic syndrome.
- b) Constrictive pericarditis.
- c) SVC syndrome.
- d) Rheumatoid arthritis.

- 21- Commonest cause of hypertrophic osteoarthropathy is :
- a) Fallot's tetralogy.
  - b) Bronchiectasis.
  - c) Mesothelioma.
  - d) Bronchogenic carcinoma.
- 22- Which of the following drugs may produce pleural effusion :
- a) Losartan.
  - b) Miltefosine.
  - c) Amiodarone.
  - d) Propranolol.
- 23- Lovibond's angle is approximately :
- a) 120°
  - b) 140°
  - c) 180°
  - d) 160°
- 24- Pink, frothy, and profuse sputum is seen in :
- a) Pneumoconiosis.
  - b) Lobar pneumonia.
  - c) Acute pulmonary edema.
  - d) Aspergilloma.
- 25- Non-cardiogenic pulmonary edema is seen in all EXCEPT :
- a) Fulminant hepatic failure.
  - b) Hemorrhagic pancreatitis.
  - c) Deep sea diving.
  - d) Malignant malaria.
- 26- A patient with hemoptysis and having depressed bridge of the nose is diagnostic of :
- a) Rickets.
  - b) Wegner's granulomatosis.
  - c) Congenital syphilis.
  - d) Rhinocerebral mucormycosis.
- 27- Which of the following is not a paraneoplastic syndrome in bronchogenic carcinoma :
- a) Cachexia.
  - b) Hemoptysis.
  - c) Polymyositis.
  - d) SIADH



- 28- Regarding hypoventilation all are true EXCEPT :
- a) Occurs in severe kyphoscoliosis.
  - b) Hypoxemia.
  - c) Hypercapnia.
  - d) Hypoxemia is not corrected by 100% O<sub>2</sub>.
- 29- Impaired diffusion is seen in all EXCEPT :
- a) Sarcoidosis.
  - b) Pleural mesothelioma.
  - c) Emphysema
  - d) Anemia.
- 30- Which does not belong to the triad of symptomatic bronchial asthma :
- a) Chest pain.
  - b) Dyspnea.
  - c) Wheeze.
  - d) Cough.
- 31- Caplan's syndrome is coal worker's pneumoconiosis associated with :
- a) SLE
  - b) Scleroderma.
  - c) Rheumatoid arthritis.
  - d) Ankylosing spondylitis.
- 32- Viral pneumonia may have :
- a) Signs of consolidation in chest.
  - b) Splenomegaly
  - c) High WBC count
  - d) Foul-smelling expectoration.
- 33- All are commonly seen in Legionella induced pneumonia EXCEPT :
- a) Cavitation
  - b) Hyponatremia
  - c) Proteinuria
  - d) Confusion
- 34- Asbestosis is NOT related to :
- a) Mesothelioma of peritoneum
  - b) Mesothelioma of pleura
  - c) Progressive massive fibrosis
  - d) Carcinoma of the lung.
- 35- Which is not common in primary pulmonary tuberculosis
- a) Cavity.
  - b) Fibrosis.
  - c) Lymphadenopathy.
  - d) Pleural effusion.

- 36- Which is not a bedside feature of fibrosing alveolitis
- a) Orthopnea
  - b) Anemia
  - c) Clubbing
  - d) Crepitations
- 37- Chronic respiratory failure is not seen in
- a) Diffuse interstitial fibrosis
  - b) Emphysema
  - c) Pneumothorax
  - d) Chronic bronchitis
- 38- Commonest middle mediastinal mass is
- a) Lymphoma
  - b) Aortic aneurysm
  - c) Bronchogenic cyst
  - d) Thymoma
- 39- commonest posterior mediastinal tumor is
- a) Neurofibroma
  - b) Lymphoma
  - c) Teratodermoid
  - d) Metastatic carcinoma
- 40- Commonest cause of superior mediastinal syndrome is :
- a) Lymphoma.
  - b) Thymoma.
  - c) Bronchogenic carcinoma.
  - d) Retrosternal goiter.
- 41- Which is false regarding Pickwickian syndrome
- a) Marked obesity
  - b) Hyperventilation
  - c) Somnolence
  - d) Right sided heart failure
- 42- The commonest benign pulmonary neoplasm is
- a) Lipoma
  - b) Adenoma
  - c) Fibroma
  - d) Hamartoma
- 43- investigations of highest diagnostic efficacy in acute pulmonary thromboembolism is
- a) ECG
  - b) Ventilation/perfusion lung scan
  - c) Spiral CT
  - d) Arterial blood gases.

- 44- High amylase in pleural fluid is found in all EXCEPT
- a) Esophageal rupture
  - b) Bronchogenic carcinoma
  - c) Sarcoidosis
  - d) Acute pancreatitis
- 45- Which is not a neurological paraneoplastic syndrome of bronchogenic syndrome
- a) Eaton-Lambert syndrome
  - b) Cerebral thrombosis
  - c) Retinal blindness.
  - d) Subacute cerebellar degeneration.
- 46- Which is not in the list of bedside severity assessment of bronchial asthma
- a) Kussmaul's sign
  - b) Pulsus paradoxus
  - c) Silent chest
  - d) Central cyanosis
- 47- Pure oxygen therapy may produce all of the following EXCEPT
- a) Acute lung injury
  - b) Respiratory depression
  - c) Fibrosis of the lung
  - d) Consolidation of the lung
- 48- Upper border of liver dullness is elevated in all EXCEPT
- a) Ascites
  - b) Right subdiaphragmatic abscess
  - c) Right pneumothorax
  - d) Right pleural effusion.
- 49- Commonest cause of respiratory failure is
- a) Emphysema
  - b) Fibrosing alveolitis.
  - c) Bronchial asthma.
  - d) Chronic bronchitis.
- 50- Acute lung injury ( ARDS ) should be differentiated from :
- a) Acute LVF
  - b) Congestive cardiac failure.
  - c) Acute severe asthma.
  - d) Spontaneous pneumothorax.
- 51- All are features of hypercapnia EXCEPT
- a) Capillary pulsation
  - b) Central cyanosis.
  - c) Papilledema
  - d) Asterixis.

- 52- Classic dermatological manifestation of chronic sarcoidosis is :
- a) Erythema nodosum.
  - b) Maculopapular rash
  - c) Lupus pernio
  - d) Subcutaneous nodules.
- 53- The most reliable symptom of acute pulmonary thromboembolism is
- a) Chest pain
  - b) Hemoptysis.
  - c) Breathlessness
  - d) Syncope
- 54- Pulmonary fibrosis is not produced by :
- a) Tuberculosis.
  - b) Cor pulmonale.
  - c) Progressive systemic sclerosis.
  - d) Rheumatoid arthritis.
- 55- Cranial nerve most commonly affected in sarcoidosis is :
- a) VII
  - b) II
  - c) V
  - d) X
- 56- Commonest cause of death in sarcoidosis is :
- a) Cor pulmonale.
  - b) Pneumonia.
  - c) Nephrocalcinosis.
  - d) Neurosarcoidosis.
- 57- Reactivation of pulmonary tuberculosis is due to :
- a) Malnutrition.
  - b) Low perfusion.
  - c) High ventilation.
  - d) Low PaO<sub>2</sub>.
- 58- Commonest sign of aspiration pneumonia is :
- a) Stridor.
  - b) Tachypnea.
  - c) Central cyanosis.
  - d) Crepitations.
- 59- The dose of which antituberculous drug need not to be reduced in severe renal failure :
- a) Rifampicin.
  - b) INH.
  - c) Pyrazinamide.
  - d) Streptomycin.

- 60- Bronchial adenoma most commonly present as :
- a) Cough.
  - b) Stridor.
  - c) Recurrent hemoptysis.
  - d) Chest pain.
- 61- Bradypnea is associated with :
- a) Narcotic overdose.
  - b) Acidosis.
  - c) Pneumonia.
  - d) Acute lung injury.
- 62- Primary spontaneous pneumothorax is associated with :
- a) Tall & thin individuals.
  - b) Non-smokers.
  - c) Exercise.
  - d) COPD.
- 63- Predominantly left sided pleural effusion is seen in :
- a) Congestive heart failure.
  - b) Amebic liver abscess.
  - c) Esophageal rupture.
  - d) Liver cirrhosis.
- 64- Which of the anti-tuberculous drugs should be totally avoided in pregnancy :
- a) INH.
  - b) Rifampicin.
  - c) Ethambutol.
  - d) Streptomycin.
- 65- The most common organism causing pneumonia during mechanical ventilation in the first 4 days of hospitalization is :
- a) Staph. aureus.
  - b) Streptococcus pneumonia.
  - c) Gram -ve bacilli.
  - d) Hemophilus influenza.
- 66- Which of the following is NOT responsible for development of interstitial lung disease :
- a) Carbamazepine.
  - b) Methotrexate.
  - c) Amiodarone.
  - d) Carbimazole.
- 67-Asbestosis may be complicated by all EXCEPT :
- a) COPD
  - b) Mesothelioma of pleura.
  - c) Bronchogenic carcinoma.
  - d) Pulmonary fibrosis.

68- On examination of the chest of a patient with a unilateral tension pneumothorax, which of the following signs is present ?

- a) Chest wall movements are decreased on both sides.
- b) The mediastinum is pulled towards the affected side.
- c) Breath sound may be decreased or absent on the affected side.
- d) Tactile vocal fremitus will be increased on the affected side.

69- Concerning respiratory failure, Which of the following statements is true ?

- a) PaCO<sub>2</sub> is elevated in all types of respiratory failure.
- b) The commonest cause of type II respiratory failure is pneumonia.
- c) Pulsus paradoxus is a sign commonly associated with respiratory failure.
- d) It always presents with dyspnea.

70- A 65-year-old man presents with progressive shortness of breath with a history of heavy tobacco use. Breath sounds are absent on the left side of the chest. Percussion of the left chest reveals dullness. While you place your hand on the left side of the chest and have the patient say “ninety nine,” no tingling is appreciated in the hand. The trachea appears to be deviated toward the left. Which of the following diagnoses is most likely?

- a) Pneumonia
- b) Bronchial obstruction
- c) Pleural effusion
- d) Pneumothorax

71- Which of the following is a typical manifestation of chronic hyperventilation?

- a) Hypoxemia
- b) Hyperphosphatemia
- c) Tetany
- d) Clubbing

72- Which one of the following disorders characteristically produces type I respiratory failure ?

- a) Kyphoscoliosis.
- b) Guillan-Barre polyneuropathy.
- c) ARDS
- d) Inhaled foreign body in a major airway

73- All of the following are causes of an elevated hemidiaphragm EXCEPT :

- a) Laryngeal nerve paralysis.
- b) Surgical lobectomy.
- c) Subphrenic abscess.
- d) Pulmonary collapse.

74 - 77 :

- a) Chest x ray.
- b) arterial blood gas.
- c) CT chest.
- d) V/Q scan.
- e) Peak expiratory flow rate.
- f) FBC.

Which is the most appropriate investigation for each of the scenarios below ?

74- A 17 year-old girl has been admitted with acute onset shortness of breath believed by her GP to be a deterioration in her normally well controlled asthma. She has suffered with asthma since the age of 5 years & is normally well controlled, she has never had any hospital admissions. She usually takes regular salbutamol and beclomethasone.

75- A 27-year-old patient with a history of Marfan's disease presents to emergency with new onset shortness of breath. He has not had any recent illness and has not been exerting himself or playing any sports in the past couple of days. He is not complaining of cough but has noticed a small amount of right sided chest pain since the onset of the shortness of breath.

76- A 51-year-old lady has recently returned from holiday in Alex. Since her return she has noticed a minor pleuritic chest pain, which she thought would resolve with time. 2 days on, the pain is worsening and she has developed shortness of breath. On examination her saturation on room air is 89% , her chest is clear with good air entry & she has no swelling in her calves. D-dimer test is positive and chest X-ray normal.

77- A 41-year-old man is referred by his GP to the respiratory clinic for investigations of his worsening dyspnea & dry cough. He has no past respiratory history & his GP is concerned about finger clubbing, which he has noticed on routine examination. On auscultation of his chest he has noticed fine end inspiratory crepitations and chest X-ray shows a ground glass appearance.

## Answers

1- b

2- b

3- d

4- d hemolytic anemia and Mycoplasma

5- b

6- c

7- a

8- d

9- b

10 – a

11- c

12- c

13- a

14- a

Isocyanates are examples of low molecular weight substances that induce asthma. These compounds are found in spray paint & plastics. Insulation installer may be exposed to asbestose, this would result in fibrosis rather than bronchospasm.

15- c

Although malignant mesothelioma is usually associated with a history of exposure to asbestos, it is a relatively uncommon malignancy. In contrast, the risk of bronchogenic carcinoma increases markedly with asbestos exposure ( 2-3 fold )

16- a

- The exudate, due to pneumococcal pneumonia has the same picture but contains instead of lymphocytes, polymorphonuclear leucocytosis.
- The exudate due to asbestosis is due to development of mesothelioma and is hemorrhagic & doesn't decrease the sugar content of the aspirate.
- In malignant lymphoma, the aspirate is the same as TB but the glucose level is not affected.

17- c

The patient has myasthenia gravis due to thymoma.

18- c

19- c

20- d

21- d

22- c

23- d

Lovibond's angle is the angle made at the meeting of the proximal nail fold and the nail plate when viewed from the radial aspect; normally, less than 165° but exceeding this in clubbing of the fingers.

24- c

25- c

26- b

27- b

28- d



29- b

30- a

31- c

32- b

33- a

34- c

35-a

36-b

37-c

38-b

39-a

40-c

41-b

42-b

43-b

44-c

45-b

46-a

47-c

48-c

49-d

50-a

51-b

52-c

53- c

54- b

55- a

56- a

57- c

58- b

59- a ( Rifampicin → Renal failure 😊 )

60- c

61- a

62- a

63-c

64-d

65-a

66-d

67- a

68- c

69- c

70-b

This case is left lung collapse produced by an obstructed bronchus. A possible cause of obstruction and atelectasis of a large amount of left lung tissue could be obstruction of a major bronchus by carcinoma of the lung, especially in an older patient who is a heavy smoker.

71- c

72- c

73- a , phrenic nerve paralysis not laryngeal nerve 😊

74- e

75-a

76-d

77-c